

REMARKS

I. Status of the Claims

Claims 23-48 are pending in this application. No claims are amended herein.

II. Rejection Under 35 U.S.C. § 103(a)

The Examiner maintains the rejection of claims 23-48¹ under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,536,463 to Beals et al. ("Beals") in view of U.S. Patent Application Publication No. 2002/0125413 A1 to Saini ("Saini") for the reasons of record. See Apr. 29, 2008, Final Office Action at 2-5.

Applicants respectfully traverse for the reasons of record and for at least the following additional reasons.

A. "said one or more gas leakage detector optical fibers is enclosed within the outer jacket"

In their prior response, Applicants' argued that neither Beals nor Saini teaches or suggests the claim limitation of independent claims 23 and 48 that the one or more gas leakage detector optical fibers is enclosed within the outer jacket. Moreover, Applicants argued that Saini teaches one skilled in the art away from enclosing the disclosed optical fibers within an outer jacket because it would have rendered the disclosed invention inoperable.

In response, the Examiner states the following:

¹ In the Final Office Action, the Examiner rejects claim 1. Applicants believe that this was an inadvertent mistake as claims 1-22 were previously cancelled and replaced with claims 23-47. Claim 48 was added in the prior response. Thus, Applicants respond to this rejection as if it applied to claim 23.

Beals discloses a method for installing optical fiber cables in pressurized gas pipelines. . . . It is well known that optical fiber cables include outer jackets and that the fragile fibers are enclosed within the outer jacket for protection. Further, installing any kind of optical fiber, whether gas leakage sensor or actual telecom fiber, in a pressurized pipeline would cause breakage of the fiber unless it was enclosed within a protective outer jacket.

Therefore, the act of installing the gas leakage sensor fiber of Saini within the telecom fiber cable of Beals installed in a gas pipeline would have been obvious to one of ordinary [skill in the] art at the time of the invention.

Id. at 2 (citation omitted).

Whether or not the Examiner is correct, the Examiner fails to address Applicants' position that Saini teaches one skilled in the art away from enclosing the disclosed optical fibers within an outer jacket because it would have rendered the disclosed invention inoperable. As Applicants noted previously (and incorporate by reference herein), the prior art reference relied upon in a rejection "must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." M.P.E.P. § 2141.03(VI) (second emphasis added); *see also Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459, 467 (1966).

Where a modification necessary to make the invention obvious destroys or negates the original intent of the modified reference, then the requisite motivation to make the modification would not have existed. *See In re Fritch*, 972 F.2d 1260, 1265 n.12, 23 U.S.P.Q.2d 1780, 1783 n.12 (Fed. Cir. 1992) ("A proposed modification [is] inappropriate for an obviousness inquiry when the modification render[s] the prior art reference inoperable for its intended purpose."); *In re Ratti*, 270 F.2d 810, 813 (C.C.P.A. 1959) (holding the suggested combination of references improper under § 103 because

it “would require a substantial reconstruction and redesign of the elements shown in [a prior art reference] as well as a change in the basic principles under which [that reference’s] construction was designed to operate”).

B. “one or more gas leakage detector optical fibers”

Contrary to the Examiner’s allegations, Saini does not teach a gas leakage detector optical fiber within the scope of the claims. As recognized by the Examiner’s citation of Beals, Applicants’ claimed invention is directed to fiber optic cables for use in gas-line applications. As discussed extensively in Applicants’ specification, the claimed fiber optic cables comprise one or more gas leakage detector optical fibers, which are present to measure the leakage of gas from a pipeline and into the environment; not a leakage into the pipeline. Saini does not teach or suggest a leakage detector that from within the pipeline could measure a leakage from a pipeline.

Saini’s cables measure the presence of target chemicals or substances. See e.g., Saini at ¶¶ [0002], [0003], [0013] to [0018]. “The sensor described [in Saini] can only detect liquid and not vapors, and would have to come in contact with the liquid hydrocarbon before the sensor was triggered.” *Id.* at ¶ [0012]. Thus, Saini merely discloses a leakage detector that responds to presence of a hydrocarbon, such as gas, due to a leak from a hydrocarbon source into the environment where the sensor resides; not the absence/loss of a hydrocarbon from the environment where the sensor resides.

This is why Saini discloses that the optical fiber “may typically run adjacent an oil or gas pipeline or some other form of construction which requires monitoring for pollutants, such as hydrocarbons.” *Id.* at ¶ [0061] (emphasis added). In other words,

the cable of Saini is designed for installation outside (adjacent to) a gas pipeline, not inside a gas pipeline.

If installed inside the pipeline, as suggested by the Examiner, the sensor of Saini would not report a leak from that pipeline, it would constantly report the presence of gas within the pipeline, which serves little or no purpose.

For at least these reasons, Applicants respectfully submit that the rejection is in error and should be withdrawn.

Because claim 23 is not rendered obvious by the combination of Beals and Saini for the reasons discussed above, claims 24-47, which depend, either directly or indirectly, from claim 23, are likewise not rendered obvious. Thus, Applicants respectfully submit that the Examiner's rejection should be withdrawn for at least the same reasons.

Moreover, claim 48, which is not rendered obvious by Beals and Saini for the same reasons that claim 23 is not obvious, also recites that the at least one leakage detector optical fiber is enclosed within the outer jacket and separated from the optical core. Nowhere does Beals or Saini teach or suggest this limitation, nor do those references provide any motivation to do so. The Examiner has failed to provide any evidence to the contrary. Therefore, Applicants respectfully submit that claim 48 is patentable over Beals and Saini for at least this additional reason.

Conclusion

In view of the foregoing remarks, Applicants submit that the claimed invention is neither anticipated nor rendered obvious in view of the prior art references cited against

this application. Applicants, therefore, request the Examiner's reconsideration of the application, and the timely allowance of the pending claims.

If the Examiner believes a telephone conference could be useful in resolving any of the outstanding issues, he is respectfully urged to contact Applicants' undersigned counsel at 202-408-4152.

If there is any fee due in connection with the filing of this Statement, please charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

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By: 

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